78K0S series

Product Letter

78K0S/KB1+

8-bit Microcontroller

Description

The 78K0S/KB1+ microcontrollers provide state-of-the-art technology together with the scalability of the K_Line. The devices incorporate two on-chip oscillators, fast 10-bit A/D converter, power-on clear (POC/POR) circuitry and LIN-capable UART. The advanced Flash memory technology allows secure self-programming and E²PROM emulation. Highest compatibility with the more powerful 78K0/KB1+ subseries was design target right from the beginning.
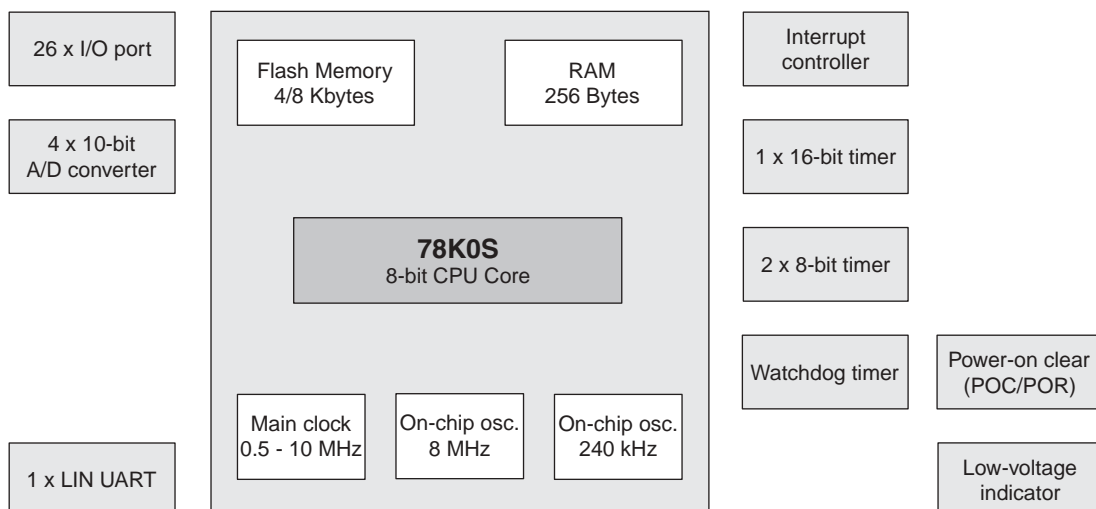
Applications

The diversity of the integrated peripheral set in combination with the price optimized 78K0S core makes this subseries ideal for design-ins for a variety of different applications. This includes the industrial and automotive segments as well as household appliances. Its cost optimized design makes it particularly attractive for cost sensitive applications.

Features

- 8-bit CISC CPU core
- 10 MHz max. clock frequency
  (200 ns min. instruction cycle time)
- Two on-chip oscillators (240 kHz and 8 MHz)
- SST Flash memory for secure
  self-programming and flexible E²PROM
  emulation
- Power-on clear (POC/POR) with RESET output
- Low voltage indicator
- 4-channel A/D converter, 10-bit resolution

- Advanced UART
  (highly flexible, supports LIN by hardware)
- 16-bit timer
- Two 8-bit timers
- Watchdog timer
- 26 I/Os
- Operating voltage: 2.0 to 5.5 V
- Operating temperature: -40 to +125 °C
  (device dependent)
- Package: 30-pin SSOP

Block Diagram

| 26 x I/O port | | | |
| 4 x 10-bit A/D converter | | | Interrupt controller |

Flash Memory 4/8 Kbytes   RAM 256 Bytes

78K0S 8-bit CPU Core

1 x 16-bit timer

2 x 8-bit timer

Main clock 0.5 - 10 MHz   On-chip osc. 8 MHz   On-chip osc. 240 kHz

Watchdog timer   Power-on clear (POC/POR)

1 x LIN UART

Low-voltage indicator

NEC

78K0S/KB1+
8-bit Microcontroller

Ordering Information

Devices

Part Number	Flash Memory (Kbytes)
µPD78F9232	4
µPD78F9234	8

Packaging: MC-5A4 = SSOP (30-pin, 300 mil, 0.65 mm pin pitch)

Documentation

Doc Reference	Devices	Type
U11047EJ	78K0S Family	Instruction Manual
tbd	78K0S/KB1+	User's Manual/Datasheet

For further information on NEC's 78K controllers visit our European website at
www.ee.nec.de/78K

Contact

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